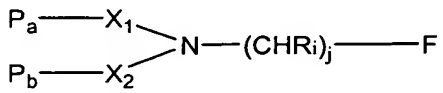
IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A Y-shaped branched hydrophilic polymer derivative represented by formula I:



(I)

wherein

P_a and P_b are hydrophilic polymers, which are the same or different;

j is an integer from 1 to 12;

R_i is selected from the group consisting of H, a C_{1-12} substituted or unsubstituted alkyl, a substituted aryl, an aralkyl, and a heteroalkyl;

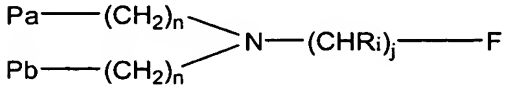
X_1 and X_2 independently are linking groups, wherein X_1 is $(CH_2)_n$, and X_2 is selected from the group consisting of $(CH_2)_n$, $(CH_2)_nOCO$, $(CH_2)_nNHCO$ and $(CH_2)_nCO$, wherein n is an integer of from 1-10; and

F is a functional group capable of reacting with an amino group, a hydroxyl group, or a thiol group of a therapeutic agent or a substrate to form a covalent linkage, selected from the group consisting of a hydroxyl group, a carboxyl group, an ester group, carboxylic acid chloride, hydrazide, maleimide and pyridine disulfide~~, being capable of reacting with an amino group, a hydroxyl group or a thiol group of a therapeutic agent or a substrate to form a covalent linkage~~.

2. (original) The hydrophilic polymer derivative of claim 1 wherein the hydrophilic polymer is selected from the group consisting of polyethylene glycol, polypropylene glycol, polyvinyl alcohol, polyacrylmorpholine and copolymers thereof.

3. (original) The hydrophilic polymer derivative of claim 2 wherein the hydrophilic polymer is polyethylene glycol.

4. (currently amended) A Y-shaped branched polyethylene glycol derivative represented by formula II:



(II)

wherein

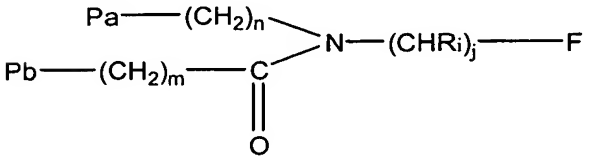
P_a and P_b are polyethylene glycols, which are the same or different;

n and j are independently an integer from 1 to 12;

R_i is selected from the group consisting of H, a C_{1-12} substituted or unsubstituted alkyl, a substituted aryl, an aralkyl, and a heteroalkyl; and

F is a functional group capable of reacting with an amino group, a hydroxyl group, or a thiol group of a therapeutic agent or a substrate to form a covalent linkage, selected from the group consisting of a hydroxyl group, a carboxyl group, an ester group, carboxylic acid chloride, hydrazide, maleimide and pyridine disulfide~~, being capable of reacting with an amino group, a hydroxyl group or a thiol group of a therapeutic agent or a substrate to form a covalent linkage~~.

5. (currently amended) A Y-shaped branched polyethylene glycol derivative represented by formula III:



(III)

wherein

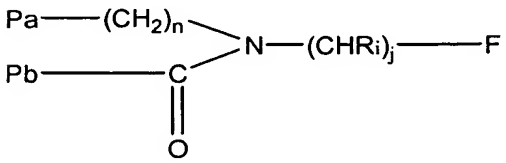
P_a and P_b are polyethylene glycols, which are the same or different;

n, m and j are independently an integer from 1 to 12;

R_i is selected from the group consisting of H, a C_{1-12} substituted or unsubstituted alkyl, a substituted aryl, an aralkyl, and a heteroalkyl; and

F is a functional group capable of reacting with an amino group, a hydroxyl group, or a thiol group of a therapeutic agent or a substrate to form a covalent linkage, selected from the group consisting of a hydroxyl group, a carboxyl group, an ester group, carboxylic acid chloride, hydrazide, maleimide and pyridine disulfide~~, being capable of reacting with an amino group, a hydroxyl group or a thiol group of a therapeutic agent or a substrate to form a covalent linkage~~.

6. (currently amended) A Y-shaped branched polyethylene glycol derivative represented by formula IV:



(IV)

wherein

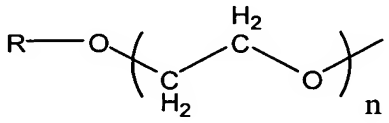
P_a and P_b are polyethylene glycols, which are the same or different;

n and j are independently an integer from 1 to 12;

R_i is selected from the group consisting of H, a C_{1-12} substituted or unsubstituted alkyl, a substituted aryl, an aralkyl, and a heteroalkyl; and

F is a functional group capable of reacting with an amino group, a hydroxyl group, or a thiol group of a therapeutic agent or a substrate to form a covalent linkage, selected from the group consisting of a hydroxyl group, a carboxyl group, an ester group, carboxylic acid chloride, hydrazide, maleimide and pyridine disulfide~~, being capable of reacting with an amino group, a hydroxyl group or a thiol group of a therapeutic agent or a substrate to form a covalent linkage~~.

7. (currently amended) The derivative of ~~any one of~~ claims 1 ~~to 6~~, wherein P_a and P_b are be the same or different PEGs of formula (V):



(V)

wherein

R is H, a C_{1-12} alkyl, a cycloalkyl or an aralkyl; and

n is an integer, representing the degree of polymerization.

8. (original) The derivative of claim 7, wherein R is selected from the group consisting of H, methyl, ethyl, isopropyl, cyclopropyl, cyclobutyl, cyclohexyl and benzyl.

9. (original) The derivative of claim 7, wherein the molecular weight of PEG is from about 300 to 60000.

10. (currently amended) A method to prepare the PEG derivative of claim 4, comprising :

~~at 0ºC~~initiating the polymerization of ethylene oxide with N,N-di-2-hydroxylethyl-2-benzyloxyethyl amine in the presence of a catalyst;

alkylating terminal hydroxyl groups; and

removing benzyl groups by catalytic hydrogenation~~; and.~~

~~derivatizing the new hydroxyl group to incorporate the terminal group F~~

11. (currently amended) A method to prepare the PEG derivative of claim 5 ~~or 6~~, comprising:

reacting one methoxyl polyethylene glycol mesylate with an amino acid under basic conditions to produce a reactive product; and

reacting the reactive product obtained above with another methoxyl polyethylene glycol derivative~~, and further derivatizing to incorporate a terminal group F to prepare the PEG derivative of claim 5 or 6~~.

12. (original) The method of claim 11, wherein the another methoxyl polyethylene glycol derivative is mPEG-carboxyethyl NHS ester.

13. (currently amended) A ~~Conjugates~~ conjugate formed by reacting the derivatives of ~~any one of~~ claims 1~~, 4, 5 and 6~~ with a drug molecule through the terminal group F.

14. (canceled)

15. (original) The conjugate of claim 13 wherein the drug is selected from the group consisting of amino acids, proteins, enzymes, nucleosides, saccharides, organic acids, glycosides, flavonoids, anthraquinones, terpenoids, phenylpropanoid phenols, steroids, glycosides of the steroids and alkaloids of the steroids.

16. (original) The conjugate of claim 13 wherein the drug is an active component of a natural medicine.

17. (original) The conjugate of claim 16 wherein the active component is cinobufagin, clycyrrhetinic acid or scopoletin.

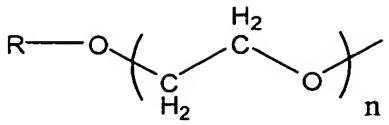
18. (original) The conjugate of claim 13 wherein the drug is an anti-tumor agent.

19. (original) The conjugate of claim 18 wherein the anti-tumor agent is selected from the group consisting of paclitaxel, camptothecin, interferon and derivatives thereof.

20. (original) The conjugate of claim 19 wherein the interferon is α-, β-or γ-interferon.

21. (currently amended) A pharmaceutical composition comprising the conjugate according to ~~any one of~~ claims 13~~ to 20~~ and ~~optionally~~ a pharmaceutically acceptable carrier ~~and~~ or excipient.

22. (new) The derivative of claim 4, wherein P_a and P_b are the same or different PEGs of formula (V):



(V)

wherein

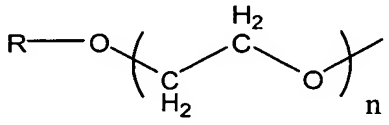
R is H, a C_{1-12} alkyl, a cycloalkyl or an aralkyl; and

n is an integer, representing the degree of polymerization.

23. (new) The derivative of claim 22, wherein R is selected from the group consisting of H, methyl, ethyl, isopropyl, cyclopropyl, cyclobutyl, cyclohexyl and benzyl.

24. (new) The derivative of claim 22, wherein the molecular weight of PEG is from about 300 to 60000.

25. (new) The derivative of claim 5, wherein P_a and P_b are the same or different PEGs of formula (V):



(V)

wherein

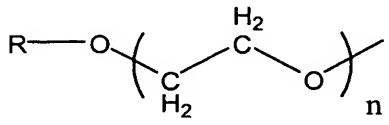
R is H, a C_{1-12} alkyl, a cycloalkyl or an aralkyl; and

n is an integer, representing the degree of polymerization.

26. (new) The derivative of claim 25, wherein R is selected from the group consisting of H, methyl, ethyl, isopropyl, cyclopropyl, cyclobutyl, cyclohexyl and benzyl.

27. (new) The derivative of claim 26, wherein the molecular weight of PEG is from about 300 to 60000.

28. (new) The derivative of claim 6, wherein P_a and P_b are the same or different PEGs of formula (V):



(V)

wherein

R is H, a C_{1-12} alkyl, a cycloalkyl or an aralkyl; and

n is an integer, representing the degree of polymerization.

29. (new) The derivative of claim 28, wherein R is selected from the group consisting of H, methyl, ethyl, isopropyl, cyclopropyl, cyclobutyl, cyclohexyl and benzyl.

30. (new) The derivative of claim 28, wherein the molecular weight of PEG is from about 300 to 60000.

31. (new) The method of claim 10, further comprising a step of derivatizing to incorporate the functional group F of claim 4.

32. (new) The method of claim 11, further comprising a step of derivatizing to incorporate the functional group F of claim 5.

33. (new) A method to prepare the PEG derivative of claim 6, comprising:

reacting one methoxyl polyethylene glycol mesylate with an amino acid under basic conditions; and

reacting the product obtained above with another methoxyl polyethylene glycol derivative.

34. (new) The method of claim 33, further comprising a step of derivatizing to incorporate other terminal group F of claim 6.

35. (new) The method of claim 33, wherein the another methoxyl polyethylene glycol derivative is mPEG-carboxyethyl NHS ester.

36. (new) A conjugate formed by reacting the derivative of claim 4 with drug molecules through the terminal group F.

37. (new) The conjugate of claim 36 wherein the drug is selected from the group consisting of amino acids, proteins, enzymes, nucleosides, saccharides, organic acids, glycosides, flavonoids, anthraquinones, terpenoids, phenylpropanoid phenols, steroids, glycoside of the steroids and alkaloids of the steroids.

38. (new) The conjugate of claim 36 wherein the drug is an active component of a natural medicine.

39. (new) The conjugate of claim 38 wherein the active component is cinobufagin, clycyrrhetinic acid or scopoletin.

40. (new) The conjugate of claim 36 wherein the drug is an anti-tumor agent.

41. (new) The conjugate of claim 40 wherein the anti-tumor agent is selected from the group consisting of paclitaxel, camptothecin, interferon and derivatives thereof.

42. (new) The conjugate of claim 41 wherein the interferon is α-, β-or γ-interferon.

43. (new) A conjugate formed by reacting the derivative of claim 5 with drug molecules through the terminal group F.

44. (new) The conjugate of claim 43 wherein the drug is selected from the group consisting of amino acids, proteins, enzymes, nucleosides, saccharides, organic acids, glycosides, flavonoids, anthraquinones, terpenoids, phenylpropanoid phenols, steroids, glycoside of the steroids and alkaloids of the steroids.

45. (new) The conjugate of claim 43 wherein the drug is an active component of a natural medicine.

46. (new) The conjugate of claim 43 wherein the active component is cinobufagin, clycyrrhetinic acid or scopoletin.

47. (new) The conjugate of claim 43 wherein the drug is an anti-tumor agent.

48. (new) The conjugate of claim 47 wherein the anti-tumor agent is selected from the group consisting of paclitaxel, camptothecin, interferon and derivatives thereof.

49. (new) The conjugate of claim 46 wherein the interferon is α-, β-or γ-interferon.

50. (new) A conjugate formed by reacting the derivative of claim 6 with drug molecules through the terminal group F.

51. (new) The conjugate of claim 50 wherein the drug is selected from the group consisting of amino acids, proteins, enzymes, nucleosides, saccharides, organic acids, glycosides, flavonoids, anthraquinones, terpenoids, phenylpropanoid phenols, steroids, glycoside of the steroids and alkaloids of the steroids.

52. (new) The conjugate of claim 40 wherein the drug is an active component of a natural medicine.

53. (new) The conjugate of claim 52 wherein the active component is cinobufagin, clycyrrhetinic acid or scopoletin.

54. (new) The conjugate of claim 50 wherein the drug is an anti-tumor agent.

55. (new) The conjugate of claim 54 wherein the anti-tumor agent is selected from the group consisting of paclitaxel, camptothecin, interferon and derivatives thereof.

56. (new) The conjugate of claim 55 wherein the interferon is α-, β-or γ-interferon.

57. (new) A pharmaceutical composition comprising the conjugate according to claim 36 and a pharmaceutically acceptable carrier or excipient.

58. (new) A pharmaceutical composition comprising the conjugate according to claim 43 and a pharmaceutically acceptable carrier or excipient.

59. (new) A pharmaceutical composition comprising the conjugate according to claim 50 and a pharmaceutically acceptable carrier or excipient.